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Preserving traditional child health care practices followed in Udupi district- a qualitative study

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Though modern medicine is practised across India, traditional systems of medicine along with folklore systems still continue to assist a large section of the population, especially in rural areas. This indigenous practice and knowledge should be recorded before it disappears. Therefore, we aim to collect information regarding the knowledge of health care practices in Udupi district. A prospective qualitative study was carried out for a period of six months in rural and tribal areas of Udupi district, South India, using a pre-tested structured questionnaire and an in-depth interview method. Leaves are the most frequently used plant parts and most medicines are formulated into a paste and administered orally or topically. A paste of traditional roots and herbs (like Brahmi, baje [*Acorus calamus*] and pinaari) is advised for newborn babies with the belief that it will improve memory and enhance speech development. Other herbs from the kitchen garden (sambarballi and tulsi/basil leaves) are primarily used in a decoction to remove phlegm from the body. Gathering information from the tribal population of the society may prove to be constructive in preserving the ancient knowledge before it becomes extinct.

Keywords: Common ailments, Home remedies, Infants and children, Rural, Traditional healthcare practices, Tribal

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Traditional medicine also known as indigenous or folk medicine existed prior to the emergence of modern medicine. It is indispensable that the traditional knowledge system should be researched, recorded, preserved and utilized for the welfare of human society before it vanishes[1]. Traditional medicine is an erudition unfolding over generations within different sections of societies. The proficiency of herbal healing is engrained in Indian culture and folklore[2]. Though modern medicine is gaining acceptance and popularity, traditional systems of medicine along with folklore systems still continue to assist a large section of the population, especially in rural areas. They constitute a cultural and health-care resource for the family as well as the community. Variety, adaptability, convenience, continued affirmation in developing nations and being acclaimed in developed nations along with rising financial gains, illustrate the beneficial attributes of traditional medicine[3]. In India, around 60% of the population relies on traditional medicine[4] and about 2500 plant species are utilized by traditional healers[5]. The folk knowledge traditions are varied, ecosystem- and ethnic community- specific with household-level health practices including home remedies, rituals and customs and for primary health care. Traditional practitioners are experts in healing traditions like bone setting, poison healing, natal and postnatal care, veterinary healing, general healing etc. For most of the early plant-based medicines, different medicinal plants and home essentials have been used as raw material[6]. Due to non-availability of modern medicines in rural areas, cost and time consumption, and the ease of access to traditional healers, people opt for simple home remedies for short-term conditions like cold, cough and sore throat[7].

Traditional medicine is extremely dynamic and up-to-date in nature; therefore, it is not confined to a period in time. This is contrary to common understanding[8]. Traditional healers have basic similarities originating from extensive knowledge of natural laws and the perception that it impacts living things. Some regional disparities were also observed among their principles and philosophies[9]. This knowledge is also equipped with beliefs and values, which is usually not acknowledged by scientists as rational[8].

India is well known for traditional medicine with more than half a million traditional healers and

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practitioners of alternative medicine practicing in India. At some stage in life, around 90% of the population in India utilizes Indian traditional healing services[10]. In communities with limited access to modern health care, it is the older women, well-versed in traditional health practices, who provide the first line of medical advice within the family. They constitute a cultural and health-care resource for the family as well as the community. Health professionals would benefit from a deeper understanding of the cultural beliefs and practices prevalent in the community.

The current study aims to collect information regarding the knowledge and attitude of health care practices with specific focus on child health care practices in Udupi district. Udupi district in coastal Karnataka, India has one of the highest literacy rates in the state. It includes both urban and rural areas with some tribal population. The repute of traditional practice provides the foundation for preservation strategies of the system, it also provokes the thought process towards acknowledging, conserving and proclaiming the age-old wealth of non-codified traditional medicine practices[11]. People residing in rural and tribal areas possess rich knowledge regarding bio-diversity due to the understanding that many of the wild plants are not only medicinal and edible but also significant life-sustaining sources[12]. Gathering information from these sections of the society may prove to be constructive in preserving the ancient knowledge before it becomes extinct.

Methodology

The study was carried out in Udupi district, which has a largely agrarian population in three taluks namely Udupi, Karkala and Kundapur. People from areas of Udupi district like Kabbinale, Kervashe, Mada, Nadpal, Mudradi, Belthangady of Karkala taluk were interviewed regarding traditional healthcare practices. The informants were selected based on their knowledge of traditional home remedies. We identified people with self-reported, appreciable information regarding traditional healthcare practices particularly among grandmothers aged above 50 years, along with traditional medicine practitioners. Ethical approval was obtained from Kasturba Hospital Ethics Committee, Manipal. A written informed consent was explained and undertaken from the participants of the study and confidentiality was maintained. The study included 33 participants. Most of the participants were women over the age of 50 years, with primary level of education residing in rural and tribal areas of Udupi district. Data collection was done using in-depth interviews both in the hospital OPD setting as well as by field visits until saturation point was reached. The interviews were carried out in the local language Tulu and the obtained data was translated to English later.

Materials and Methods

A structured questionnaire was used to collect detailed information about home remedies practised for neonates, children, pregnant and lactating women and adults. In the questionnaire, the formative parts dealt with the demographic characteristics including information regarding gender, age, nationality, education, family type, occupation and socio-economic status. These details are mentioned in Table 1. The second part dealt with their traditional healthcare knowledge. The informants were asked about home remedies given for common ailments like fever, cold etc. and details regarding the method of preparing the medicine and solvent and the amounts of ingredients used were documented. The participants were also asked about the nature of illness, the age group in case of infants and children, dosage and duration for which medicine has to be given, who advised them the specific remedy and whether favourable results were achieved from the remedies. Participants were requested to collect available specimens for clearer understanding.

Table 1 — Socioeconomic characteristic of the participants

Characteristics	Variables	Values	Percentage (N=33)
Gender	Male	4	12.12
	Female	29	87.8
Age	50-65	12	36.36
	65-70	15	45.45
	70-80	6	18.18
Nationality	Indian	33	100
Education	Graduation	1	3
	High school	3	9
	Primary	20	60
	Illiterate	9	27
Family type	Nuclear	15	45.45
	Joint	18	54.54
Occupation	Employed	3	9.09
	Unemployed	30	90.9
Socioeconomic status	High	1	3.03
	Low	20	60.6
	Middle	12	36.36

Results and Discussion

Mean age of traditional healers was 50.6 years, with lower limit of 50 years and upper limit of 80 years. Most of the traditional healers were elderly, as with experience their knowledge regarding home remedies is enhanced. Similar study by Haque *et al*.[10] reported that few of the village residents were reserved and would opt for self-medication, rather than consulting a doctor or traditional healer for acute illnesses. They mostly used medicinal plants, creepers or other common items found at home, they would address it as home medicine. This system of healing is rooted to indigenous knowledge, which is an ancient treasure, passed from one generation to another.

A majority i.e., 60% of the participants had primary school education, while 27% did not receive any formal education. More than half of the participants lived in a joint family. A majority of the participants were unemployed, while only 9.09% were skilled workers. The socioeconomic status (SES) of more than half of the participants was low-income group, whereas only 3% had a high SES. Most of the participants resided in very remote parts of the district with very little accessibility to basic facilities of transport and connectivity.

People in rural areas of Udupi district used home medicines to treat illness owing to their belief in traditional medicine and due to cost and lack of access to allopathic medicine. Also, they considered traditional or home remedies as more beneficial than allopathic as it was termed to have no side effects. A study conducted in Bangladesh[10] supports the current findings, suggesting that, specifically in the rural and semi-urban areas, in spite of the developments in allopathic medicine, people still opt for traditional medicine, even with the availability of modern medical facilities in their vicinity. This section accounts for as much as 75-80% of the total population.

We report the use of common herbs for effective treatment of common illnesses in children.

A. Fever

A decoction made from 2-3 drops of crushed ginger juice with equal amount of honey in 1-2 teaspoonful of gangasara (local arrack) is used to control fever in children. They also use a decoction made from sambarballi (*Plectranthus amboinicus* Lour, Fig. 1 A), onion, ginger, tulasi (Holy Basil or *Ocimum sanctum* Linn) leaves, omum seeds (*Trachyspermum ammi* Lour., Fig. 1 B) and honey boiled in water and reduced to half the quantity. This decoction (2-3 teaspoons) given twice a day will bring down the fever. Alternatively, a warm paste made from either turmeric (*Curcuma aromaticum* Salisb) or Kumkum (a unique cultural and religious symbol in India is made up of a combination of powdered turmeric and slaked lime) and, or Pethatojank leaves (*Daenia extensa* B R) applied over the forehead brings down the fever. Pongar leaves (*Thespesia populnea* Linn., Fig. 1 C) soaked in bath water also helps to control elevated body temperatures."

B. Cold and cough

Cold and runny nose which is very common in young children can be treated with inhaling vapours of heated Pongar leaves (*Thespesia populnea* L.) with salt. Decoction made of sambarballi (*Plectranthus amboinicus* Lour) and tulasi (Basil) leaves with honey is also good. A study by Chandra Prakash Kala[10] also suggests the use of Basil as a remedy for cough along with pepper and ginger. "Cough in children can be relieved with the use of any of these decoctions.

1 Extract juice of Nekkikodi leaves (*Vitex negundo L.*) and mix with crushed onion. Boil in water to reduce and add honey. A teaspoonful of this decoction may be given to young children of less than five years.
2 A teaspoon of crushed Sambarballi leaves (*Plectranthus amboinicus* Lour) or Doddapatre (*Coleus amboinicus L*our) extract mixed with honey.
3 White tumbe flowers (*Leucas aspera* Linn) and Aadsoge soppu (Fig. 1 D**)** (*Adhatoda beddomei* C.B.Cl) mixed in cow's milk with onion and ginger is a good remedy for cough in young children.
4 Kandodi boor (Fig. 1 E) (Roots of *Rhaphidophora pertusa* Roxb. Schott) crushed with ginger and added honey is an excellent remedy for cough."

The role of Adusoge (*Adhatoda* species L.) and Doddapatre (*Coleus* species Lour) for cough relief has long been accepted and has found evidence in literature as seen in folk medical knowledge from Gulbarga district documented by Ghatapanadi *et al.*[2].

C. Digestive system

Indigestion and stomach ache are very common in young children. Popular remedies include the following:

1. Extract of bitter gourd leaves with vollekodi (*Memecylon umbellatum* Burm. F).
2. Roasted omum seeds with garlic boiled in a cup of water.

Fig. 1 — (A - I) Local herbs, seeds and preparation used for treatment of illnesses in children - A. Sambraballi leaves, B. Omum seeds, C. Pongar leaves, D. Aadsoge Soppu, E. Kandodi boor, F. Kepla flowers, G. Thumbe leaves, H. Volle Kodi leaves, and I. Chinne matre (local preparation)

3. Decoction made from Kepla (*Ixora coccinea* Linn, Fig 1 F) flowers, or communist plant leaves, coconut water or cardamom and pepper seeds is useful for treating indigestion.
4. Juice made of crushed Panchapatre leaves (*Artemisia vulgaris* Linn) and Thumbe (Fig. 1 G) leaves (*Leucas aspera* Linn) is used. In a similar study, leaf extract of thumbe with a little rock salt was used to cure stomach ache[4].
5. Juice made of 4-5 leaves of crushed Ithev soppu (*Clerodendron*).
6. Juice made of 4-5 leaves of crushed Kakke soppu (*Cassia fistula* Linn).
7. Roasted Kalajeera (*Nigella sativa* L) boiled in water. Kalajeera has been used to treat stomach ache, even in the northern parts of the country, i.e., Uttar Pradesh[13].
8. Roast and boil Omum seeds in water, reduce it and add morning ash (Ash leftover at fireplace after evening cooking).

Eating a handful of roasted Vollekodi (*Memecylon umbellatum* Burm f., Fig 1 H) + Omum (*Trachyspermum ammi* L Sprague) seeds with jeera and garlic pods will improve the appetite.

Constipation in children can be treated with Kovai (*Coccinia grandis* L Voigt) + oil and honey, or rubbing Mayalu (*Basella alba*) stem around anus.

Applying juice of Ilikivi Soppu (*Centella asiatica* L.) flowers to the eyes will relieve constipation.

Vomiting

‘‘Garlic in rice gruel is an effective remedy for vomiting in children.”

‘‘Garlic pods or tree ants tied around the child’s neck will bring down vomiting.”

Mix Eendh (Palm Sago Starch) powder and jaggery in water and boil to a semisolid consistency. Drinking this will control vomiting.

Panchapatre (*Artemisia vulgaris* L) and Tulasi (Holy Basil) leaves juice are found to be effective for vomiting.

Decoction made of Pomegranate (*Punica granatum* Linn) peel, Omum (*Trachyspermum ammi* L Sprague) seeds and Betel leaves, white rice and cardamom

seeds are various other remedies for vomiting in children.

Diarrhoea

A host of home remedies are practiced for this common symptom in children, popular among these being a porridge made of barley seeds, porridge made of Yenjeera thoppu + Kujambe kodi + Eendh powder, decoction of guava leaf buds + Indian gooseberry, a decoction made of roasted omum seeds, or pomegranate peel.

"A paste of Chande boor (*Acacia chatechu* L.f) bud and buttermilk smeared over the centre of the head will bring down loose stools". However, there is very little literature evidence to support these claims.

Deworming of children is routinely practiced in the community with the use of easily available herbs and plants. Some common herbs believed to have anti-helminthic properties include:

1. Decoction of Ithev (*Thagiagninantha*) + Kepla (*Ixora coccinea* Linn) leaves with garlic and omum (*Trachyspermum ammi* L Sprague) seeds.
2. Juice of Vollekodi (*Memecylon umbellatum* Burm F) + bitter gourd and pepper corns (*Piper nigrum*)
3. Decoction of Guava leaves and Thokadle yellow flower.
4. Juice of Haalemara (*Aporosa lindleyana* Blume)
5. Eating rice with ripe papaya and salt.

D. Skin rash

Skin rashes are very common in children in a tropical climate. They are treated with a paste of Thulasi leaves + Turmeric root + Mimosa leaves + Kalajeera (*Nigella sativa*) in coconut oil.

Another soothing paste is made of Chandrika soppu+ Jeera seeds and coconut oil.

Wild ragi and rice gruel.

Vollekodi leaves + Neem leaves + Thatapataki (*Bryophyllum* sp) leaves with Jeera in cow's urine can be directly rubbed on to the rash for relief.

Skin boils heal fast on an application of *Aloe vera* leaf mucilage or when a paste of Amavaseber and honey is applied once or twice daily.

To treat minor wounds, turmeric powder or Theki (*Tectona grandis* Linn) are used. Juice of crushed Jagalaganti tree (*Diospyros montana* Roxb) leaves and lime also helps in wound healing.

Dryness of skin in babies improves on application of coconut oil, ghee, milk cream or sandalwood paste.

The baby will have very fair skin on application of a paste of sandalwood (*Santalum album* Linn) + turmeric+ Besan (Bengal gram flour) in milk.

Hair loss can be reduced on application of a paste of White hibiscus flower and its leaves + Nelanelli (*Phyllanthus niruri*) boiled in coconut oil and cooled.

E. General improvement of health in babies and young children

"Consuming juice of crushed Thimare leaves also known as Brahmi *(Bacopa monnieri* Linn) on a weekly basis is said to improve memory in the long run."

"Rubbing a paste of Baje (*Acorus calamus* Linn) and Pinnari (*Calophyllum inophyllum* Linn) mixed with breast milk on the baby's tongue once a week during infancy will ensure good speech and pronunciation later in life. "Alternatively, Kavateber (*Zanthoxylum rhesta S*chott) or Heple paste can be used for a similar effect."

Role of chinnematre

Chinne matre (Fig. 1 I) is a unique preparation extensively used in coastal Karnataka manufactured locally and used as a prophylactic measure by mothers across socioeconomic classes. It is administered to babies twice a week by dissolving in various media like ginger juice, onion juice and local arrack and is believed to be the panacea for a wide range of ailments including infantile colic, temper tantrums and even childhood seizures.

Ethnomedical investigation conducted in Sharavathi Valley in the neighboring district of Shimoga by Savinaya *et al.*[9] also report that skin diseases and wounds are generally treated using various locally available leaf paste, while fever, cough and cold are treated using decoction of bark and roots as listed in our study. Different parts of the plant have different medicinal properties.

Conclusion

Traditional knowledge constitutes the main asset in the efforts of the rural population to achieve control of their own lives. They possess incredible knowledge of many plant-based formulations, which have served mankind for a long time. The practice of traditional medicine seems to be at a cross roads with increasing urban migration. The non-inheritance of knowledge and unavailability of medical plants, poses a warning for extinction of this precious ancient episteme[14]. In addition to studies involving photochemistry and biological properties, clinical studies are also needed to bring them into mainstream of medicine. Generation and implementation of policies for preservation of knowledge and resources at public,

legislative and scientific levels to conserve this traditional mastery is crucial[14].

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Conflicts of interest

The authors declare that they have no conflicts of interest regarding this article.

Authors Contribution

AH: Conceptualization, Supervision, writing- Original draft, editing, formal analysis; VR: Data curation, investigation, writing- original draft, review

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